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| 09/757,405 | 01/08/2001 | Guojin Liang | 60012-0012 | 6397 |

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| EXAMINER | |
|---|---|
| CAO, CHUN | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2185 | |

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/757,405 | LIANG, GUOJIN | |
| | Examiner | Art Unit | |
| | Chun Cao | 2185 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,8-21 and 25-29* is/are rejected.

7)☒ Claim(s) *5,7 and 22-24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. Claims 1-29 are presented for examination.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Drawings*

3. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 U.S.C. § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Harrison (Harrison), US patent no. 6,173,432.

As per claim 1, Harrison discloses a multi-link receiving mechanism [fig. 5; col. 9, lines 31-36; emphasis added, col. 9, lines 34-35, "memory device 16" should be --memory device 10-- typographical error], comprising:

a first receiver [memory devices 10a-c, fig. 5] coupled to receive a first data stream and a clock signal [fig. 1; col. 1, line 61-col. 2, line 6; col. 4, lines 60-67], said first data stream comprising a first plurality of data units [col. 5, lines 37-41], said first receiver delaying said clock signal by a first variable delay to derive a first reference signal, and generating a first plurality of latching control signals based upon said first reference signal to latch said first plurality of data units [figures 2 and 3; col. 5, lines 2-6, 20-26; col. 5, line 51-col. 6, line 7]; and

a second receiver [memory devices 10a-c, fig. 5; col. 9, lines 15-36] coupled to receive a second data stream and clock signal [fig. 1; col. 1, line 61-col. 2, line 6; col. 4, lines 60-67], said second data stream comprising a second plurality of data units [col. 5, lines 37-41], said second receiver delaying said clock signal by a second variable delay to derive a second reference signal, and generating a second plurality of latching control signals based upon said second reference signal to latch said second plurality of data units [figures 2 and 3; col. 5, lines 2-6, 20-26; col. 5, line 51-col. 6, line 7].

***Claim Rejections - 35 U.S.C. § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2-4, 6, 8-21 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison (Harrison), US patent no. 6,173,432 in view of Applicant Admitted Prior Art (AAPA).

Harrison does not explicit teach the limitations as set forth in claims 2-3.

As per claim 2, AAPA teaches that first data stream and second data stream are not aligned with each other when received by said first receiver and said second receiver, respectively [page 3, lines 2-9].

As per claim 3, AAPA teaches that clock signal is not necessarily aligned with said first data stream or said second data stream [page 3, lines 19-21; page 4, lines 10-11].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harrison and AAPA because they both teach of concurrently processing multiple data stream, and the specific teachings of AAPA stated above would maximize the functionality of Harrison system by allowing adjust the clock signal.

As per claim 4, AAPA discloses that first receiver adjust said first variable delay based upon relative alignment between said first data stream and said clock signal [page 5, lines 1-9].

As per claim 6, Harrison teaches that first variable delay and second variable delay are different delays [col. 6, lines 8-15].

As per claim 8, Harrison discloses that each of first plurality of data units occupies one data period, and wherein said first reference signal coincides approximately with a midpoint of a data period corresponding to one of first plurality of data units [col. 5, lines 19-25, 37-40]. AAPA also discloses the limitations as set forth in claim 8 [page 5, lines 1-5].

As per claim 9, Harrison discloses that each of second plurality of data units occupies one data period, and wherein said second reference signal coincides approximately with a midpoint of a data period corresponding to one of second plurality of data units [col. 5, lines 19-25, 37-40].

As per claim 10, Harrison discloses that each of first plurality of data units occupies one data period occupies one data period, and wherein said first receiver generates no more than one of said first plurality of latching control signals per data period [col. 8, lines 38-40].

As per claim 11, Harrison discloses that each of first plurality of latching control signals coincides approximately with a midpoint of a data period corresponding to one of first plurality of data units [col. 5, lines 19-25, 37-40].

As per claim 12, Harrison discloses that each of second plurality of data units occupies one data period occupies one data period, and wherein said second receiver generates no more than one of said second plurality of latching control signals per data period [col. 8, lines 38-40].

As per claim 13, Harrison discloses that each of second plurality of latching control signals coincides approximately with a midpoint of a data period corresponding to one of second plurality of data units [fig. 3; col. 5, lines 19-25, 37-40].

As per claim 14, Harrison discloses that first receiver comprises a first delay control mechanism for adjusting said first variable delay, and wherein second receiver comprises a second delay control mechanism for adjusting second variable delay [figs. 3 and 5; col. 6, lines 8-15; col. 9, lines 32-36].

As to claims 15 and 17, Harrison discloses that first delay control mechanism adjusts said first variable delay to cause said first receiver to generate said first plurality of latching control

signals such that each of said first plurality of latching control signals coincides more closely with a midpoint of a data period corresponding to one of first plurality of data units [fig. 3; col. 5, lines 19-25, 37-40].

As to claims 16 and 18, Harrison discloses that second delay control mechanism adjusts said second variable delay to cause said second receiver to generate said first plurality of latching control signals such that each of said second plurality of latching control signals coincides more closely with a midpoint of a data period corresponding to one of second plurality of data units [fig. 3; col. 5, lines 19-25, 37-40].

As to claims 19 and 20, Harrison discloses that first control delay mechanism comprises a detection mechanism such as a phase detector [fig .3; col. 6, lines. 66-67].

As per claim 21, Harrison discloses that first control mechanism further comprises a fixed delay element coupled to receive at least at least one of said first plurality of latching control signals and providing a delayed latching signal; and a latching component coupled to receive said first data stream, said latching component latching one of said first plurality of data units in response to said delayed latching signal [fig. 3; col. 5, lines 37-57].

As per claim 25, Harrison discloses that first receiver [memory devices 10a-c, fig. 5] comprises a first delay locked loop [fig .3; col. 6, lines 13-29; col. 9, lines 32-36], and wherein second receiver [memory devices 10a-c, fig. 5] comprises a second delay locked loop [fig .3; col. 6, lines 13-29; col. 9, lines 32-36].

As to claims 26 and 27, Harrison discloses that first delay locked loop generates no more than one of said first plurality of latching control signals per data period, and wherein each of

said first plurality of latching control signals coincides approximately with a midpoint of a data period corresponding to one of first plurality of data units [fig. 3; col. 5, lines 19-25, 37-40].

As to claims 28 and 29, Harrison discloses that second delay locked loop generates no more than one of said second plurality of latching control signals per data period, and wherein each of said second plurality of latching control signals coincides approximately with a midpoint of a data period corresponding to one of second plurality of data units [fig. 3; col. 5, lines 19-25, 37-40].

***Allowable Subject Matter***

8. Claims 5, 7 and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 746-7239, (for formal communications intended for entry)

**Or:**

(703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun Cao at (703) 308-6106. The examiner can normally be reached on Monday-Friday from 7:30 am - 4:00 pm. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor Thomas Lee can be reached at (703) 305-9717. The fax number for this Art Unit are followings: After-Final (703) 746-7238; Official (703) 746-7239; Non-Official (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 306-5631.

Chun Cao

Dec. 5, 2003